

**What is claimed is:**

1           1. A method of modifying conductive wiring,  
2 comprising:

3           providing a semiconductor substrate;

4           forming a first barrier on the semiconductor  
5           substrate;

6           forming a conductive wiring on the first barrier;

7           forming a second barrier on the conductive wiring;

8           and

9           performing a thermal treatment on the semiconductor  
10          substrate.

1           2. The method as claimed in claim 1, wherein the  
2 first barrier and the second barrier individually  
3 comprises a stacked Ti/TiN.

1           3. The method as claimed in claim 1, wherein the  
2 conductive wiring comprises a Cu/Al alloy or a Cu/Al/Si  
3 alloy.

1           4. The method as claimed in claim 1, wherein the  
2 thermal treatment is performed by baking.

1           5. The method as claimed in claim 1, wherein the  
2 thermal treatment is performed by quenching.

1           6. The method as claimed in claim 1, wherein the  
2 thermal treatment is performed after forming the  
3 conductive wiring.

1           7. The method as claimed in claim 2, wherein the  
2 thermal treatment is performed after forming TiN of the  
3 second barrier.

1           8. The method as claimed in claim 1, wherein the  
2 thermal treatment is performed in an atmosphere  
3 containing nitrogen.

1           9. The method as claimed in claim 1, wherein the  
2 thermal treatment and a plasma treatment are performed  
3 simultaneously.

1           10. The method as claimed in claim 1, wherein the  
2 thermal treatment is performed at a temperature of about  
3 200~400°C.

1           11. The method as claimed in claim 5, wherein the  
2 substrate is quenched from a high temperature range of  
3 about 350°C to a low temperature range of about 23°C in a  
4 short interval between about 50 to 70 seconds.

1           12. A method of modifying conductive wiring,  
2 comprising:

3           providing a semiconductor substrate;

4           forming a first barrier on the semiconductor;

5           forming a conductive wiring on the first barrier;

6           forming a second barrier on the conductive wiring;

7           and

8           treating the semiconductor substrate with a

9           nitrogen-containing gas.

1           13. The method as claimed in claim 12, wherein the  
2 first barrier and the second barrier individually  
3 comprise a stacked Ti/TiN.

1           14. The method as claimed in claim 12, wherein the  
2 conductive wiring comprises a Cu/Al alloy or a Cu/Al/Si  
3 alloy.

1           15. The method as claimed in claim 12, wherein the  
2 nitrogen-containing gas is treated with the semiconductor  
3 before forming the conductive wiring.

1           16. The method as claimed in claim 12, wherein the  
2 nitrogen-containing gas is treated with the semiconductor  
3 after forming the conductive wiring.

1           17. The method as claimed in claim 12, wherein the  
2 nitrogen-containing gas is treated with the semiconductor  
3 after forming Ti of the second barrier.

1           18. The method as claimed in claim 12, wherein the  
2 nitrogen-containing gas comprises N<sub>2</sub>O or N<sub>2</sub>.

1           19. The method as claimed in claim 12, wherein the  
2 nitrogen-containing gas and a thermal treatment are  
3 treated simultaneously.

1           20. The method as claimed in claim 12, wherein the  
2 nitrogen-containing gas and a plasma treatment are  
3 treated simultaneously.